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R Rudd

Atomistic simulation of MEMS resonators through the coupling of length scales - group of 2 »

RE Rudd, JQ Broughton - J. Modeling and Simulation of Microsystems, 1999 - cr.org
... the multiscale decomposition for the micro- **gear train**. ... 3: Illustration of dynamic simulation zone and ... fundamental flexural mode of **oscillation**, and released. ...
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Experimental verification of a command shaping boom crane controlsystem - group of 3 »

GG Parker, K Groom, JE Hurtado, J Feddema, RD ... - American Control Conference, 1999. Proceedings of the 1999, 1999 - ieeexplore.ieee.org
... to be the slew axis **gear train**, and is ... only addresses the source of payload **oscillation** attributed to ... under investigation both in **simulation** and experimental ...
Cited by 12 - [Related Articles](#) - [Web Search](#)

On Modeling, Identification, and Control of a Heavy-Duty Electrohydraulic Harvester Manipulator - group of 3 »

E Papadopoulos, B Mu, R Frenette - IEEE/ASME TRANSACTIONS ON MECHATRONICS, 2003 - ieeexplore.ieee.org
... servo-control applications in a **simulation** or a ... where is the line-**oscillation frequency** observed (about 3 Hz ... into the damping of the **gear train** connected to its ...
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Coupling of length scales and atomistic simulation of MEMS devices - group of 2 »

RE Rudd, JQ Broughton - Proc. MSM - coewww.rutgers.edu
... there are clear departures from a sinusoidal **oscillation**. ... what speed can we run a **gear train** before entanglement ... SAMs and also the envisaged **simulation** of SAM ...
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A kiln drive vibration problem and solution

SE Ehinger, H Inc, TX Clarksville - Cement Industry Technical Conference, 1993. Record of ..., 1993 - ieeexplore.ieee.org
... the damage that had taken place in the **gear train**. ... a detailed analytical study and **simulation** of the ... verify the actual source of the low **frequency oscillation**. ...
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Modeling and identification of an electrohydraulic articulated forestry machine - group of 4 »

E Papadopoulos, B Mu, R Frenette - Robotics and Automation, 1997. Proceedings., 1997 IEEE ..., 1997 - ieeexplore.ieee.org
... and use in a graphical training **simulator** [2]. Mathematical ... Therefore, iff is the **frequency of oscillation**, and 1 ... the damp- ing of the **gear train** connected to ...
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Motor characteristics in the control of a compliant load - group of 4 »

EG Harokopos, RW Mayne - Journal of Guidance, Control, and Dynamics, 1986 - pdf.aiaa.org

... consisting of a DC-motor, a **gear train** and an ... tions at low values of R_o, the **oscillation frequency** results from ... From the various **simulation** results it has been ...

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Rate loop control based on torque compensation in anti-backlash geared servo system

YS Kwon, HY Hwang, HR Lee, SH Kim - American Control Conference, 2004. Proceedings of the 2004 - ieeexplore.ieee.org

... such as the unstable **self-oscillation**, or extra ... stiffness of the anti-backlash **gear train** is linearized ... The friction model in this **simulation** is expressed in ...

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Coupling of Length Scales and Atomistic Simulation of MEMS Resonators - group of 6 »

RE Rudd, JQ Broughton - Arxiv preprint cond-mat/9812232, 1998 - arxiv.org

... 5. Illustration of dynamic **simulation** zone and ... the multiscale decomposition for the **micro-gear train**. ... there are clear departures from a sinusoidal **oscillation**. ...

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Analysis of the Possibilities of the Usage of Electrical Synchronous Link for a CNC Gear Hobbing ...

K Slivinskas, V Gichan, AJ Poska, VK Augustaitis - scientific.net

... axis usually consists of the reducing **gear train** allowing one ... Results of **Simulation** and Calculation of Dynamic ... is necessary to mention that **oscillations** of the ...

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[The additional mass of bodies oscillating in shallow water](#)

PG Avramenko - International Applied Mechanics, 1967 - Springer

... is not developed enough to permit **simulation** of wave ... 6, flywheel 7, reducing **gear train** 8, electric ... The actual **oscillation frequency** range employed was 1.2-18 ...

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[R Rudd](#)

[J Broughton](#)

[G Parker](#)

[J Geras](#)

[R Robinett](#)

[Ultra-maneuverable steering control algorithms for terrain transitions - group of 6 »](#)

MW Torrie, R Koch, V Bahl, D Cripps - Proceedings of SPIE- The International society for optical ..., 1999 - autonomoussolutions.com

... **gear train** ... The discrete **simulation** of the PQFT remained stable in the large, but exhibited a small angular ... Reducing the system gain eliminated the **oscillation**. ...

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[Reducing the effect of load torque disturbances in dual inertia systems with lost motion](#)

P Schmidt, T Rehm - American Control Conference, 2004. Proceedings of the 2004 - ieeexplore.ieee.org

... Instead, the **simulation** insured Page 3 1.2 that ... a printing press operation where high **frequency** disturbances are ... The graph shows a slight **oscillation** caused by ...

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[On the Modeling and Control of an Experimental Harvester Machine Manipulator - group of 3 »](#)

E Papadopoulos, R Frenette, B Mu, Y Gonthier - IEEE/RSJ Int. Conf. on Intell. Robots and Sys, 1997 - users.ntua.gr

... a requirement for control and graphical **simulator** design [3 ... f is the line fundamental **frequency of oscillation**, l is its ... is D m , N is the **gear train** gear ratio ...

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[\[book\] Structural Flexibility of the Shuttle Remote Manipulator System Mechanical Arm - group of 3 »](#)

PK Nguyen - 1982 - pdf.aiaa.org

... present- ing part of the math modelling, analysis and **simulation** results mentioned ... and a roller bearing, and carries the G-2 out- put **gear train**. ... **Frequency** (Hz ...

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[Senior Control Systems Laboratory at Purdue University](#)

DE Lyon, PH Meckl, ODI Nwokah - ieeexplore.ieee.org

... Thus, the **simulation** performs much like a "real" system ... settling time or the **frequency of oscillation** of a ... The presence of the **gear train** and some bearing ...

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[Command shaping boom crane control system with nonlinear inputs](#)

GG Parker, K Groom, J Hurtado, RD Robinett, F ... - Control Applications, 1999. Proceedings of the 1999 IEEE ..., 1999 - ieeexplore.ieee.org

... pendulation using an operator in- the-loop **simulation**. ... kinematics and the primary **payload oscillation** Characteristics are ... be the slew axis **gear train**, and is ...

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ninn 3rd ProDulsion Joint - group of 2 »

W Seattle - pdf.aiaa.org

Page 1. NO. 67-504 u THE LUNAR ORBITER VELOCITY CONTROL SYSTEM by HH NYE and D.

W..MOORMAN The Boeing Company Seattle, Washington AIM Paper NO. 67-504 ninn ...

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Liquid propellant missle longitudinal oscillation

RH Fashbaugh - 1966 - deepblue.lib.umich.edu

... mass of the pump rotor, **gear train**, and turbine ... Proper **simulation** of the missile system is important ... the orifice outlet pressure **oscillation** amplitude versus ...

Cached - Web Search

Dynamic simulation of wheel-rail interaction for locomotivetraction studies

S Senini, F Flinders, W Oghanna - Railroad Conference, 1993., Proceedings of the 1993 IEEE/ ..., 1993 - ieeexplore.ieee.org

... the motors, Simulations were performed on the dynamic systems **simulator**, "SIMULINK" and ... by the motor is transferred through the **gear train** and eventually ...

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J Broughton

G Parker

J Gieras

R Robinett

SLIDING MODE CONTROL OF A FLEXIBLE MANIPULATOR WITH COULOMB FRICTION - group of 2 »

AL Crassidis - AIAA Guidance, Navigation and Control Conference, Baltimore, ..., 1995 - pdf.aiaa.org

... Persistent **oscillations** of the beam tip occur at the **frequency** of the ... The Coulomb friction **simulation** captures this behavior rather well as shown in ...
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Survey of nonlinear vibration of gear transmission systems - group of 2 »

J Wang, R Li, X Peng - Applied Mechanics Reviews, 2003 - link.aip.org

... RC and Crossley FRE (1977), Digital **simulation** of impact ... and Mook DT (1979), Nonlinear **Oscillations**, John Wiley ... stability of a two-stage **gear train** under the ...

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Development and Implementation of Compliant Controller On Manus Robot Arm

AR Konuk - student.utwente.nl

... **Simulation**45 7.7 ... output side of a **gear train** is ...

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A three-state clutch servomechanism for an underwater control surface. - group of 2 »

CR Tegnelia - 1968 - dspace.mit.edu

... a spring-mass filter and a **gear train**, both of ... above all, steady-state **oscillations** are eliminated ... results of the analysis and **simulation** studies certainly ...

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On-hardware optimization of stepper-motor system dynamics - group of 2 »

JR Rogers, K Craig - Mechatronics, 2005 - Elsevier

... optimizing these sequences based on **simulation** of the ... Slamming and **oscillation** are almost always undesirable ... removing backlash from a **gear train** will result in ...

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Telerobotic response requirements

TL Brooks, STX Robotics, MD Lanham - Systems, Man and Cybernetics, 1990. Conference Proceedings., ..., 1990 - ieeexplore.ieee.org

... loop may be closed to alleviate nonlinear effects of the **gear train** and actuator ...

Another advantage is that the higher-**frequency** force components can be sensed ...

[Cited by 66](#) - [Related Articles](#) - [Web Search](#)

Controlling mechanical systems with backlash—a survey - group of 3 »

M Nordin, PO Gutman - Automatica, 2002 - Elsevier

... regulator dynam- ics, so that arbitrary open-loop cross-over **frequency** is not ... Note that the measured motor speed amplitude of the **oscillations** may be very ...

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Development of 3D-input device using adaptive control - group of 2 »

H Yokoi, J Yamashita, Y Fukui, M Shimojo - Neural Networks, 1995. Proceedings., IEEE International ..., 1995 - ieeexplore.ieee.org

... manipulator is accelerated through a **gear train** by a ... output based on the **oscillation** input, obtaining ... assumptions presented above, computer **simulation** shows a ...
Cited by 3 - Related Articles - Web Search

Control of low velocity friction and gear backlash in a machine tool feed drive system
- group of 4 »

K Menon, K Krishnamurthy - Mechatronics, 1999 - Elsevier
... in position and limit cycle **oscillations** around the ... But the **simulation** results presented showed that the ... lead screw transmission system through a **gear train**. ...
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Application of the wavelet transform in machine condition monitoring and fault diagnostics: a review ... - group of 6 »

ZK Peng, FL Chu - Mechanical Systems and Signal Processing, 2004 - Elsevier
... systems [18, 19 and 20], planetary **gear train** [21 and ... 2. A **simulation** signal (a) and its wavelet ... wavelet packet algorithm into free-**oscillation** testing method ...
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S2	398	(gear near2 (system or train)) with (vibration)
S3	600	(gear near2 (system or train)) with (torsional near2 vibration)
S4	39	(gear near2 (system or train)) with (torsional near2 vibration)
S5	984	S2 or S3 or S4
S6	62	S5 and (gear with characteristic\$1)
S7	22	S5 and (gear with parameter\$1)
S8	5	S5 and (simulat\$3 with (oscillation or vibration))
S9	67	S5 and ((oscillation or vibration) with (range or tolerance))
S10	85	S5 and ((oscillation or vibration) with (model or function or equation))
S11	7	S5 and ((solv\$3 or solution) with (model or function or equation))
S12	213	S5 and ((oscillation or vibration) with (frequency or amplitude))
S13	54	S5 and ((driving near2 gear) with (driven near2 gear))
S14	230	S6 or S7 or S8 or S9 or S10 or S11 or S13
S15	97	S12 and S14
S16	230	S14 or S15
S25	85	S20 and ((oscillation or vibration) with (model or function or equation))
S23	5	S20 and (simulat\$3 with (oscillation or vibration))
S19	39	(gear near2 (system or train)) with (torsional near2 vibration)
S27	213	S20 and ((oscillation or vibration) with (frequency or amplitude))
S17	398	(gear near2 (system or train)) with (oscillation)
S30	97	S27 and S29
S31	230	S29 or S30
S26	7	S20 and ((solv\$3 or solution) with (model or function or equation))
S29	230	S21 or S22 or S23 or S24 or S25 or S26 or S28
S20	984	S17 or S18 or S19
S18	600	(gear near2 (system or train)) with (vibration)
S24	67	S20 and ((oscillation or vibration) with (range or tolerance))
S21	62	S20 and (gear with characteristic\$1)
S22	22	S20 and (gear with parameter\$1)
S28	54	S20 and ((driving near2 gear) with (driven near2 gear))
S32	157	(gear near2 (system or train)) with (simulat\$3)
S33	680	(gear near2 (system or train)) same (simulat\$3)
S34	680	S32 or S33
S35	11	S34 and (gear near2 (system or train)) with (characteristic\$1 or parameter)
S36	37	S34 and (gear with (characteristic\$1 or parameter))
S37	251	S34 and ((driving or driven or final) near2 gear)
S38	237	S34 and (simulat\$3 with gear)
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S41	10	S34 and ((acceptable or specified) with (range or tolerance))

S40	5	S34 and ((oscillation or vibration) with (range or tolerance))	US-PGPUB; USPAT; USOCR; EPO; JPO; DERVENT; IBM_TDB
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US 20050220491 A1	Device for driving an endless belt and image forming apparatus using the same	20051006 399/167
US 20050205371 A1	Torsional vibration damper of a rotating shaft	20050922 188/291
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US 20050127203 A1	Transverse axes oscillating water sprinkler with cam driven, oscillating nozzles	20050616 239/200
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US 20050115346 A1	Method of changing gears of automobile, automotive gear shifter, controller for automotive gear	20050602 74/335
US 20050072965 A1	Electronic winch monitoring system	20050407 254/361
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US 20050041986 A1	Rotary developing device	20050224 399/227
US 20050034540 A1	Isolation arrangement for system under test	20050217 73/862,322
US 20050014597 A1	Superfinishing large planetary gear systems	20050120 475/344
US 20040233794 A1	Timepiece driving apparatus and time calculating apparatus	20041125 368/157
US 20040200283 A1	Synchronous averaging of epicyclic sun gear vibration	20041014 73/593
US 20040176902 A1	Vibration monitoring system for gas turbine engines	20040909 701/100
US 20040133404 A1	Gear-driving-system designing system	20040708 703/1
US 20040112654 A1	HYBRID AUTOMOTIVE POWER TRAIN WITH TORSIONAL VIBRATION DAMPER	20040617 180/65,2
US 20040065268 A1	Livestock cooling system	20040408 119/448
US 20030230205 A1	Compensation of cylinder vibration in printing material processing machines	20031218 101/216
US 20030224893 A1	Wobbling inner gearing planetary gear system and method of assembling external gears	20031204 475/163
US 20030183467 A1	Placement of an auxiliary mass damper to eliminate torsional resonances in driving range in	20031002 188/380
US 20030163242 A1	Misfire detection system for vehicle multicylinder internal combustion engine	20030828 701/111
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US 20030133814 A1	Hybrid bearing arrangement for centrifugal compressor	20030717 417/423,12
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US 20030106444 A1	Method of driving a machine related to printing technology	20030612 101/211
US 20020190683 A1	Vibration control apparatus for vehicle having electric motor	20021219 318/632
US 20020112546 A1	High-speed rotation testing apparatus	20020822 73/781
US 20020111241 A1	Motor actuator	20020815 475/149
US 20020085086 A1	Device for driving an endless belt and image forming apparatus using the same	20020704 347/262
US 20020073795 A1	Low noise planetary gear design	20020620 74/4460
US 20020070203 A1	Method for adjusting the oscillation frequency of a sprung balance for a mechanical timepiece	20020613 219/121,69
US 20020049118 A1	Method and apparatus for controlling a vehicle with a gear-shift transmission	20020425 477/107
US 20020014172 A1	Inking apparatus control means for rotary press	20020207 101/350,3
US 20020005127 A1	Printing press	20020117 101/141
US 20010014809 A1	Hair removal device with disc, vibration, and light assemblies	20010816 606/133
US 7063306 B2	Electronic winch monitoring system	20060620 254/361
US 7013210 B2	Vibration monitoring system for gas turbine engines	20060314 701/100
US 6968145 B2	Rotary developing device	20051122 399/227
US 6914619 B2	Device for driving an endless belt and image forming apparatus using the same	20050705 347/154
US 6907325 B1	Method of operating a hybrid electric vehicle to limit noise, vibration, and harshness	20050614 701/22
US 6898975 B2	Synchronous averaging of epicyclic sun gear vibration	20050531 73/593
US 6883251 B2	Livestock cooling system	20050426 345/27
US 6832147 B2	Method and apparatus for controlling a vehicle with a gear-shift transmission	200412/4 701/54
US 6829457 B2	Driving apparatus and image formation apparatus using the driving apparatus	20041207 399/167
US 6824546 B1	Hair removal device with disc and vibration assemblies	20041130 606/133
US 6813459 B2	Rotary developing device	20041102 399/227

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US 6698352 B2	Inking apparatus control means for rotary press	20040302 101/349.1
US 6634292 B2	Printing press with means for connecting and disconnecting motors for oscillating roller	20031021 101/141
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US 6436106 B2	Hair removal device with disc, vibration, and light assemblies	20020820 606/133
US 6298725 B1	Method for the separation of epicyclic planet gear vibration signatures	20011009 73/593
US 622502 B1	Method of designing uniform motion, substantially vibration-free spur gears	20010828 70/31
US 6217288 B1	Vibration correction system for a camera	20010807 396/55
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